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Amendt B
2/12/03

PATENT
Docket No. 050-99-050

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Kalman et al.

Serial No. 09/759,054
Filed: Jan. 10, 2001

For: AC-TO-AC POWER CONVERTER WITHOUT A DC LINK CAPACITOR

: Confirmation No. 1934

: Examiner G. Laxton
: Group Art Unit: 2838

Assistant Commissioner for Patents
Washington, D.C. 20231

AMENDMENT

Please replace claims 1, 2 and 21 with the following.

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1. Power conversion apparatus comprising:

a source-side inverter including on/off switches;

a drive-side inverter including on/off switches;

a dc current link coupled between an output of the source-side inverter and

an input of the drive-side inverter; and

a controller for operating the source-side inverter in current mode and the

drive-side inverter in a commutation mode to achieve sinusoidal input

currents at an input of the source-side inverter and sinusoidal output

currents at an output of the driver-side inverter.

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2. Power conversion apparatus comprising:

a source-side inverter;

a drive-side inverter;

a dc current link coupled between an output of the source-side inverter and an input of the drive-side inverter; and

a controller for operating the source-side inverter in current mode and the drive-side inverter in a commutation mode, the controller commanding the source-side inverter to perform current regulation on the dc current link during a first portion of each modulating cycle and current mode space vector modulation during a second portion of each modulating cycle.

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21. Apparatus comprising:

an ac motor;

a first switch-based inverter having an input adapted to receive ac power;

a second switch-based inverter coupled to the ac motor; and

means for operating the first inverter in current mode and the second inverter in commutation mode to achieve sinusoidal input currents at an input of the first inverter and sinusoidal output currents at an output of the second inverter.